BTEC IT Unit 4 Programming Model Answer Teacher Notes.

Introduction.

The program solutions included here are based on the Pearson authorised assignment brief for the event management system and follows this requirement brief:

Vocational Scenario or Context	You are a junior employee at a small software development company. Your company recently visited a local college and delivered a guest lecture. The college were pleased with the outcome of the visit and have asked your company to judge an upcoming tournament. The college will be running a tournament for students to compete in a series of events for prizes. • Participants may enter the tournament as individuals or as part of a team • It is expected that will be 4 teams each with 5 members and there will be 20 spaces for individual competitors • Each team or individual will complete 5 events • Each event will be defined as a team or individual event • The events will vary in type, from sporting to academic challenges • Individuals and teams will be awarded points according to their rank within each event • The points awarded for each event are as yet undecided and the college are willing to hear any suggestions you may have • Also the college would like to include the possibility of entering for one event only You have been asked to design and develop a computer program to manage the scoring system for the tournament.

All programs have been designed to run in a console window, and has not used any GUI driven Event based programming with either windows forms (for the C# and VB.NET solution) or tkinter (for python).

Overall Design.

All programs follow the same basic overall design.

Data Structures and Variables.

4 single dimensional arrays are used to store the 4 teams of 5 players.

A 2D array is used to work out the scores for the teams.

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Program Flowchart.

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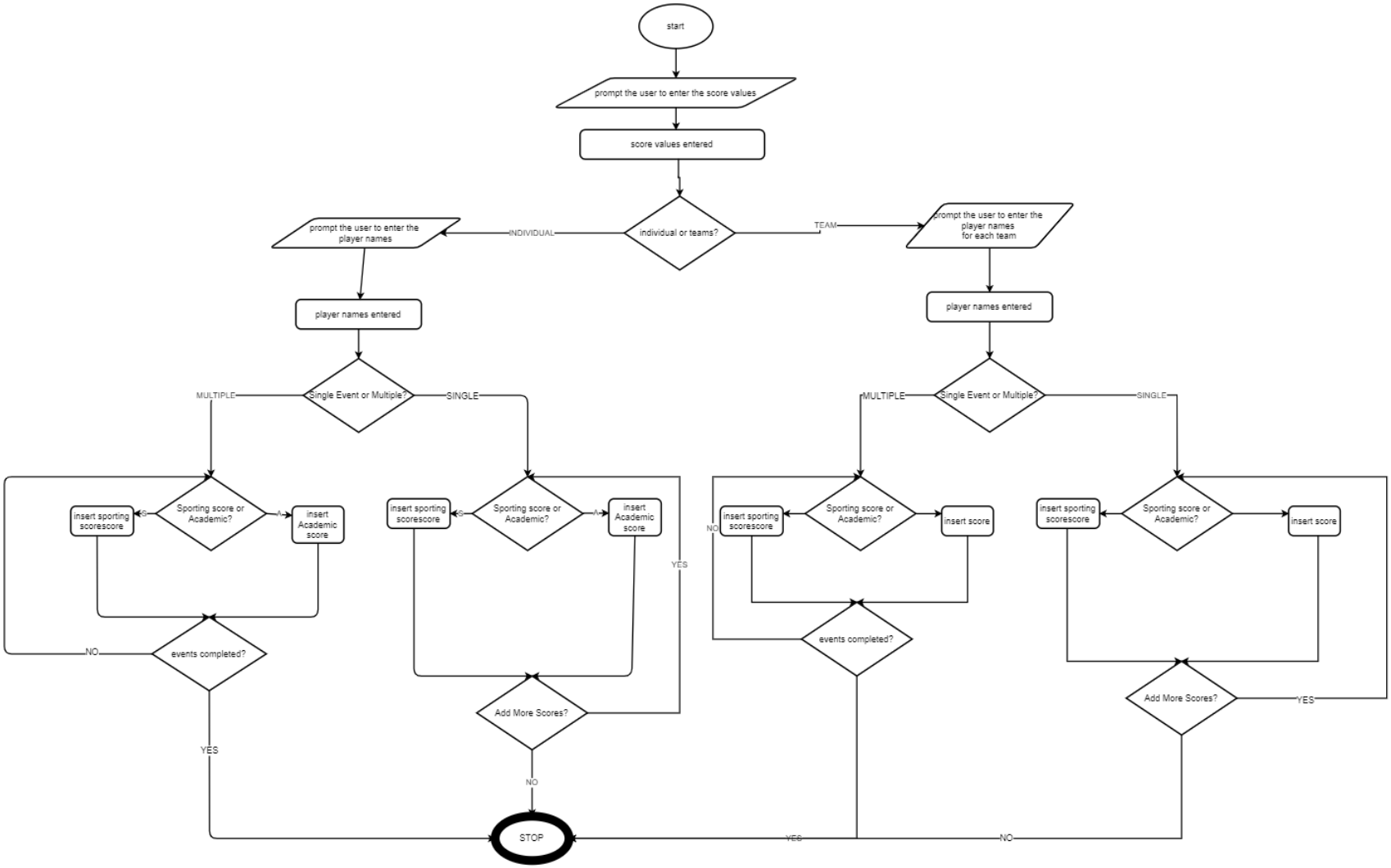

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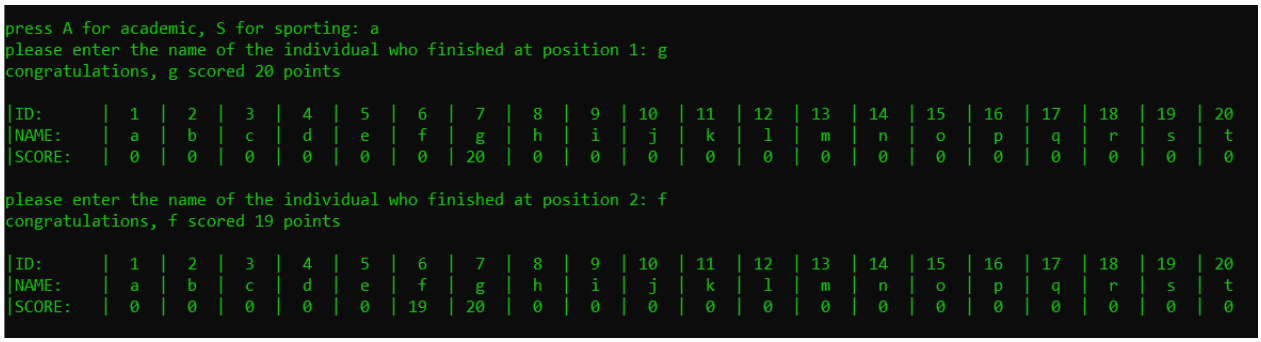
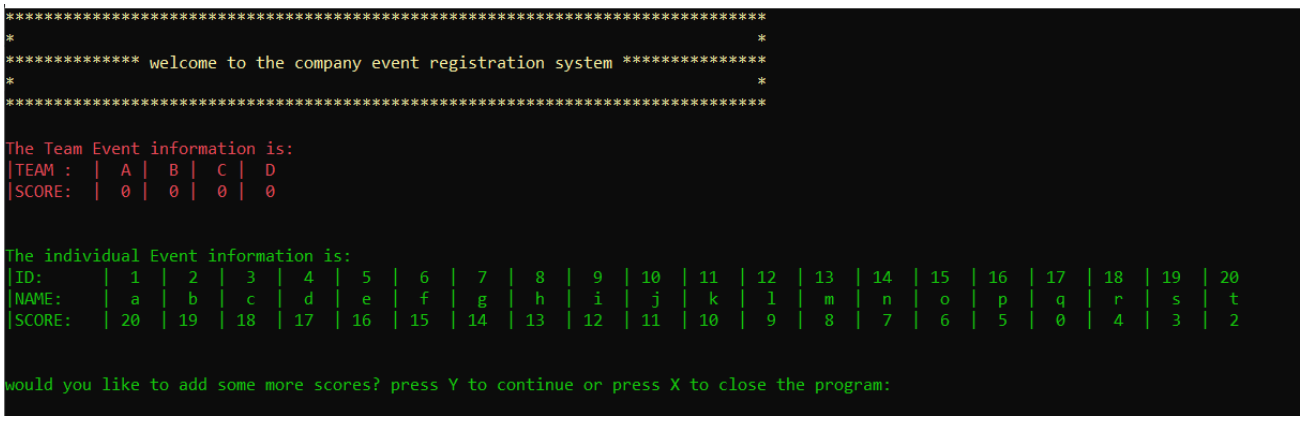
Design rationale

The assignment brief has been left purposefully vague. The idea is that there are enough blanks that the programmer must keep going back to the original stakeholder for clarification on exactly what the client wishes to see. Such conversations will need to be recorded in the meeting minutes for ongoing interviews and final signoff.

The program is a console based application.


press A for academic, S for sporting: a
please enter the name of the individual who finished at position 1: g
congratulations, g scored 20 points
|ID: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20
|NAME: | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t
|SCORE: | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0
please enter the name of the individual who finished at position 2: f
congratulations, f scored 19 points
|ID: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20
|NAME: | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t
|SCORE: | 0 | 0 | 0 | 0 | 0 | 19 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0

Recording the scores for individuals. Here G finished first and was awarded 20 points, F finished second and was awarded 19 points.


********** welcome to the company event registration system **********
The Team Event information is:
|TEAM : | A | B | C | D
|SCORE: | 0 | 0 | 0 | 0
The individual Event information is:
|ID: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20
|NAME: | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t
|SCORE: | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 0 | 4 | 3 | 2
would you like to add some more scores? press Y to continue or press X to close the program:

The final overview screen after the single individual events have finished

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Functions

Name	Parameters	Return	Purpose
RunProgram	None	None	Starts the program, sets up the initial colours and the initial menus.
RunIndividualEvents	None	None	Code for the individual events
RunSingleIndividualEvent	String eventType	None	The code for one event based on the supplied type

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C# Specific Notes

The program uses the System namespace to allow for an application.exit code

The program extensively makes use of console.clear() and changing of the console text colour to indicate the different subsystems.

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